

# A NEW SPECIES OF *PHOTOMORPHUS* (HYMENOPTERA: MUTILLIDAE) FROM FLORIDA<sup>1</sup>

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## ABSTRACT

*Photomorphus* (*Photomorphina*) *archboldi*, a new species of mutillid wasp, is described, illustrated, and compared with other species of the genus *Photomorphus*. Males were collected in malaise traps and, based upon collection records, distribution appears to be restricted to central Florida. It is most easily distinguished by the conspicuous white legs. The female is unknown.

Key Words: *Photomorphus* (*Photomorphina*) *archboldi*, Mutillidae, Velvet ants.

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## INTRODUCTION

During the spring and summer of 1983 - 1985, 12 male specimens of a new species of *Photomorphus* were collected in malaise traps on the Archbold Biological Station, Highlands Co., FL. Two additional specimens, collected in malaise traps in Marion Co., FL, during the summer of 1985, were found in the Florida State Collection of Arthropods. We describe the species in this paper.

## PHOTOMORPHUS (PHOTOMORPHINA) ARCHBOLDI MANLEY AND DEYRUP, NEW SPECIES

### *Male*

Integument of body nearly uniformly ferruginous; legs entirely, and scape and pedicel of antennae, white; antennal flagellum castaneous; pubescence whitish throughout and suberect; length 7 - 9 mm (Fig. 1A).

Head ferruginous, rounded behind eyes; smooth, shining, punctures shallow, well-separated. Eyes and ocelli large, eyes black, polished; ocello-ocular distance slightly greater than greatest ocellar diameter. Clypeus moderately depressed, forming shallow basin with mandible; smooth, shining; mentum convex, protruding sharply at base, longitudinally carinate medially. Mandible tridentate, tip black, weakly excised ventrally, subtending tooth rounded, width basad of tooth about 0.7 width at emargination. Antennal scrobe with low, narrow, sharp tubercle; scape and pedicel pale, like legs; flagellum darker than body; flagellomere I shorter than other segments, others subequal in length. Inter-antennal carina present, ending in tubercle at clypeal border.

Thorax ferruginous, except tegula somewhat paler; mostly with moderately coarse, confluent punctures. Pronotum with moderately coarse, confluent punctures;

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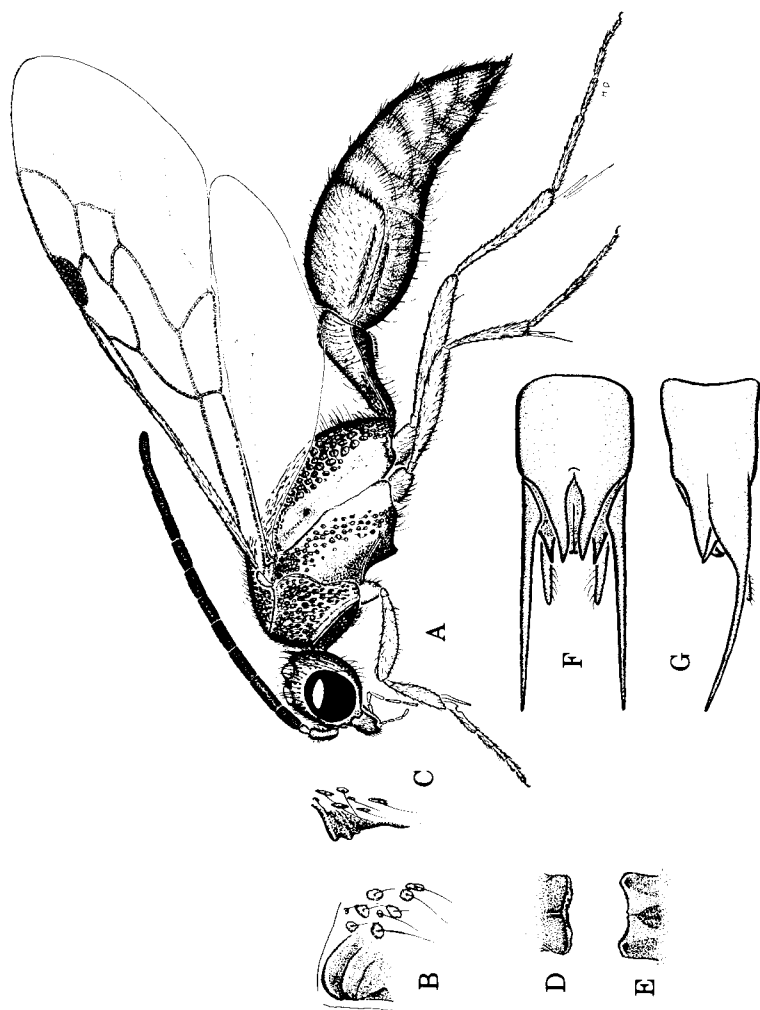


Fig. 1. *Photomorphus (Photomorphina) archboldi*. A — Habitus. B — Left mesosternal process (ventral view). C — Left mesosternal process (lateral view). D — Metasternal process (ventral view). E — Metasternal process (posterior view). F — Male genitalia (dorsal view). G — Male genitalia (lateral view).

humeral angle rounded, poorly defined. Scutal punctures smaller, more separated than those of pronotum and scutellum. Propodeum with shallow, contiguous reticulations, except basally, where there is a median longitudinal U-shaped area formed by coalescence of 3-4 reticulations. Mesopleuron posteriorly with moderately coarse, confluent punctures, like dorsum; mesopleuron anteriorly and metapleuron smooth, impunctate, with fine decumbent pubescence. Mesosternum armed at anterior border with pair of prominent, peg-like, close set processes (Fig. 1B and 1C), separated by narrow, U-shaped sinus; processes somewhat broader than long, with some transverse creases giving them a transversely ridged appearance; punctuation of mesosternum like that of dorsum. Metasternum with high, broad, rounded bidentate median process (Fig. 1D and 1E). Wings nearly hyaline, with vague, lightly infuscated band below stigma and radial cell, with brown veins and dark brown stigma; forewing ca. 7 mm long. Tegula smooth, impunctate; somewhat lighter than integument, but darker than legs. Legs whitish throughout, including spurs; coxae of all three pairs approximate medially; hind coxa simple, unarmed.

Abdomen uniformly ferruginous; smooth, shining, punctures shallow, widely separated. Dorsal felt line about 0.8 lateral length of abdominal segment II; sternal felt line about 0.6 length of dorsal line. Sternum I with low, median ridge almost the entire length; anterior three-fifths coarsely, confluent punctate; posterior two-fifths smooth, clothed with fine, dense, erect, pubescence. Pygidium smooth, shining; with thick fringe of hairs. Hypopygium flat, elongate, rounded at apex, the disk with scattered, setigerous punctures. Genitalia as illustrated in Fig. 1F and 1G.

#### *Holotype (Male)*

Archbold Biological Station, Lake Placid, Highlands Co., FL, April 28-30, 1984 (M. A. Deyrup, in the collection of the United States National Museum).

#### *Paratypes (All Males)*

From type locality (11, all collected by M. A. Deyrup), June 2, 1983, July 11, 1983, July 15, 1983, April 22, 1984, May 16, 1984, June 6, 1984, June 22, 1984, July 11, 1984, May 15, 1985, August 19, 1985, October 30, 1985; (1), Lake Eaton, Marion Co., FL, July 27 - September 10, 1985 (J. Wiley); (1), 9 mi. SSW Ocala, Marion Co., FL, September 4, 1985 (J. Wiley). Paratypes are in the collections of the U. S. National Museum, the Archbold Biological Station, the Florida State Collection of Arthropods, and Donald G. Manley.

## DISCUSSION

In Schuster's (1958) keys to *Photomorphus*, *P. archboldi* runs to couplet 18 to the subgenus *Photomorphina*. Its tridentate mandibles, carinate mentum, the lack of projections on the mentum, and approximate middle coxae place it in the subgenus *Photomorphina*, though in this species the carina of the mentum is weakly produced.

The only other species of *Photomorphus* known to inhabit Florida are: *Photomorphus* (*Photomorphus*) *alogus* Viereck, *banski*, (Bradley), *paulus* (Bradley), and *P. (Photomorphina) spinci* (Bradley). *Photomorphus archboldi* is easily distinguished from the three former species by the subgeneric characteristics.

*Photomorphus archboldi* is distinguished from *P. spinci* by the depth of the incision of the mandibles and the mesosternal tubercles. The whitish color of the legs distinguishes *P. archboldi* from all other known species of *Photomorphus*. We know of no described or undescribed specimens of female southeastern *Photomorphus* that could be associated with *P. archboldi*.

*Photomorphus archboldi* is not commonly collected. It has been taken only in malaise traps, and even with continuous collecting over a three-year period on the Archbold Biological Station few specimens have been taken. The species is almost certainly nocturnal. All specimens are from areas of Florida scrub, an ancient and highly restricted habitat with a high proportion of endemic plants and animals.

#### *Etymology*

We name this species in honor of Richard Archbold, naturalist, who established the biological station on which the type was collected.

#### LITERATURE CITED

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